

REMARKS

This Amendment cancels claims 16-26, adds new claims 27-39 and amends claims 1-15. The features of new claims 27-29 are taken from claims 1, 2, 4, 6, 8, 9, and 15, with the dry matter content feature of claims 15, 38 and 39 is supported by page 7, lines 1-3 of the specification. Claims 1-15 and 27-39 are pending.

Non-elected claims 16-26 have been canceled subject to the applicants' right to file a divisional application. Reconsideration and withdrawal of the restriction requirement are respectfully requested.

This Amendment overcomes the 35 U.S.C. § 112, second paragraph, rejection of claims 1-15. At the outset, it appears the Office examined the original claims, rather than the claims as amended by the preliminary amendment filed with the application. The preferred embodiments of claims 1, 2, 4, 6, 8, 9 and 15 have been deleted from these claims in favor of new dependent claims 27-39. Claim 1 has been amended to specify the dwell time of the fibre material in the activation zone is less than 10 seconds. One of ordinary skill in the art would understand step (c) of claim 1 encompasses mixing the materials either in a prior mixing step, in the reactor itself, or both. Similarly, one of ordinary skill

would understand the "small liquid drops" of claim 2 to have a spherical shape, whose diameter is predominantly less than 10 mm. Finally, "thickness" has been replaced with --dry matter content-- in claim 15, and the claim preambles have been rewritten to more closely conform to U.S. practice. Reconsideration and withdrawal of the indefiniteness rejection of claims 1-15 are respectfully requested.

The 35 U.S.C. § 102(b) rejection of claims 1, 3, 9, 12 and 13 over WO 02/40773 to Henricson is traversed. A feature of the claimed method is the fibre material is activated in an activation zone prior to and/or during precipitation, so that the ability of the fibres to bind with one another and to bind to precipitated mineral substances is increased. Another feature of the claimed method is that dwell time of the fibre material in the activation zone is less than 10 seconds.

Henricson fails to expressly disclose both these features of the claimed method. The Patent Office argues Henricson's rotating treatment drum inherently acts as an activation zone.

An inherent disclosure must necessarily and inevitably flow from the teachings of the prior art. See MPEP § 2112, Section IV. In this case, the rotation of the drum disclosed in Henricson

merely causes mixing of components, i.e., contacting a gaseous chemical (e.g. carbon dioxide) with a "first chemical" (calcium hydroxide) in a fibre suspension, in order to achieve good contact between carbon dioxide and calcium hydroxide so that calcium carbonate is formed.

Nothing in Henricson remotely suggests that such mixing will *necessarily and inevitably* activate its fibre material, such that the ability of the fibres to bind with one another and to bind to precipitated mineral substances is increased. Page 8, lines 21-31 of Henricson teach the use of a sufficiently slow rotation speed to permit the fiber suspension to be carried upward on the drum's internal surface and flat bars prior to falling downward through the gas space of the drum toward the drum bottom, thereby mixing the fiber with the carbon dioxide contained in the drum.

In contrast, the activation zone of the present invention is a violent environment, i.e., recurrent sequential impacts, double impacts, shear forces, turbulence and over- and underpressure pulses, which is necessary to mechanically activate the fibres. See page 6, lines 7-13 of the application. Such fiber activation cannot "necessarily and inevitably" be achieved by the relatively slow rotating drum treatment taught in Henricson.

Moreover, Henricson's rotating drum treatment fails to disclose the less than 10 second activation treatment duration of the claimed method. Instead, page 6, lines 30-32 of Henricson teach an average retention time of 3-30 minutes for its rotating drum mixing step.

Reconsideration and withdrawal of the anticipation rejection of claims 1, 3, 9, 12 and 13 over Henricson are respectfully requested.

The 35 U.S.C. § 102(b) rejection of claims 2, 4, 10 and 14 over Henricson is traversed. These claims all depend from claim 1, which specifies a fiber activation treatment having a duration of less than 10 seconds.

Henricson fails to expressly or inherently disclose the specified activation treatment. Henricson's mixing (not activation) of its fibers with carbon dioxide gas by slow drum rotation does not "necessarily and inevitably" cause fiber activation, such that the ability of the fibers to bind with one another and to bind a precipitated mineral substance increases. Reconsideration and withdrawal of the anticipation rejection of claims 2, 4, 10 and 14 over Henricson are respectfully requested.

The alternative obviousness rejection of these claims over Henricson is also traversed. One of ordinary skill in the art is

given no motivation or suggestion to modify Henricson's rotating drum mixing treatment by (1) making it sufficiently violent to activate its fibers and (2) shortening Henricson's rotating drum treatment from 3 minutes to less than 10 seconds. Reconsideration and withdrawal of the alternative obviousness rejection of claims 2, 4, 10 and 14 over Henricson are respectfully requested.

The 35 U.S.C. § 103(a) rejection of claims 5-8, 11 and 15 over Henricson in view of WO 03/031717 to Palm is traversed. A feature of the claimed method is the activation of fibre material prior to and/or during precipitation, so that the ability of the fibres to bind with one another and to bind to precipitated mineral substances is increased. Another feature of the claimed method is that dwell time of the fibre material in the activation zone is less than 10 seconds.

The cited combination of references fails to raise a prima facie case of obviousness against the claimed method because one of ordinary skill in the art would not combine their disclosures to reach the claimed method. As demonstrated above, Henricson's rotating drum mixing step fails to disclose or suggest a short (less than 10 second) activation step which increases the fibres' ability to bind with one another and precipitated mineral substances.

Palm discloses a method for removing coloring agents such as printing ink from recycled fibres in an impact mill. Contrary to paragraph 41 of the Official Action, paragraphs **[0022-0025]** of Palm do not teach that "additives can improve desired attributes of the pulp in addition to taking additives away". Instead, at least one chemical is added to the fibre material in order to enhance removal of printing ink from the fibre. The added chemical does not remain on the fibre; it is separated from the process together with the coloring agent.

Henricson seeks to add a mineral substance to fibre. In contrast, Palm seeks to remove substances from the fibres using an impact mill, and thus teaches away from the claimed method. One of ordinary skill in the art has no motivation or reason to replace Henricson's rotating drum mixing step with Palm's impact mill treatment.

It is improper to use hindsight to reconstruct references to reach a claimed invention, Innogenetics, N.V. v. Abbott Labs, 512 F.3d 1363, n. 3 (Fed. Cir. 2008). One of ordinary skill in the art who read Henricson and Palm, *without* benefit of the applicants' specification, would simply not combine their disclosures as proposed by the Patent Office. Reconsideration and withdrawal of

the obviousness rejection of claims 5-8, 11 and 15 over Henricson in view of Palm are respectfully requested.

It is believed this application is in condition for allowance. Reconsideration and withdrawal of all rejections of claims 1-15, and issuance of a Notice of Allowance directed to claims 1-15 and 27-39, are earnestly requested. The Examiner is urged to telephone the undersigned should he believe any further action is required for allowance.

The extension of time and excess claim fees are being paid electronically today. It is not believed any additional fee is required for entry of this Amendment. Nevertheless, the Commissioner is authorized to charge Deposit Account No. 50-1258 in the amount of any such required fee.

Respectfully submitted,

/James C. Lydon/

James C. Lydon
Reg. No. 30,082

Atty. Case No.: **OHMAN-004**
100 Daingerfield Road
Suite 100
Alexandria, Virginia 22314
Telephone: (703) 838-0445
Facsimile: (703) 838-0447

Attachment:
Petition for Extension of Time